Application No.: 10/552,507 Amendment under 37 C.F.R. §1.111
Art Unit: 1793 Attorney Docket No.: 053128

AMENDMENTS TO THE SPECIFICATION

Please amend the specification as follows:

Amend paragraph beginning on page 4, line 14 to read as follows:

In the present invention, the alloy prepared by a rapid solidification process is used as a

starting material. This makes it possible to form an amorphous structure in the material without

segregation. This starting material is oxidized to preferentially or selectively oxidize Zr which is

one element of the Zr-Pd alloy, so that the element Pd in an amorphous state is aggregated to

form ultrafine particles consisting of the Pd, the metal M and one or more compounds thereof

and having a nanoparticle size of about 20 nm or less and clean hetero-phase boundaries without

segregation, and the ultrafine particles are dispersed in the parent phase of [[ZnO₂]] ZrO₂. Thus,

it is not desirable that the starting material exhibits crystalinity.

Please replace Table 1 on page 7 with amended Table 1 on the following page:

- 2 -

Application No.: 10/552,507 Art Unit: 1793 Amendment under 37 C.F.R. §1.111 Attorney Docket No.: 053128

Table 1

				able 1			
	Composition of starting material (at. %)	Measurement temperature of hydrogen storage characteristic s (*C)	Hydrogen storage amount of entire material (wt. %)	Pd weight - based hydrogen storage amount (wt. %)	Pd weight - based hydrogen desorption amount (wt. %)	Structure	Phase of starting material
Inventive Example I	Zr ₆₅ Pd ₃₀ Ni ₅	150	0.71	2.30	1.21	Pd nanoparticles +ZrO ₂	amorphous
Inventive Example 2	Zr ₆₅ Pd ₃₀ Ni ₅	. 50	0.78	2.51	1.57	Pd-Ni ally nanoparticles +ZrO ₂	amorphous
Comparative Example 1	Zr ₆₅ Pd ₃₅	150	0.71	2.19	0.54	Pd nanoparticles +ZrO ₂	amorphous
Comparative Example 2	Zr ₆₅ Pd ₃₅	50	0.84	2.58	1.33	Pd nanoparticles +ZrO ₂	amorphous
Comparative Example 3	Zr ₅₀ Pd ₅₀	150	0.45	0.95	0.32	Pd coarse particles +ZrO ₂	crystalline
Comparative Example 4	Zr ₅₀ Pd ₅₀	50	0.59	1.26	0.61	Pd coarse particles +ZrO ₂	crystalline
Comparative Example 5	Zr ₇₀ Pd ₃₀ Zr ₇₀ Au ₃₀	150	0.44	0.09	0.09	Au nanoparticles +ZrO ₂	amorphous
Comparative Example 6	Pd (reported value)	150	0.65	0.65	0.65	Pd (polycrystalline structure of coarse particles)	crystalline
Comparative Example 7	Pd (reported value)	50	0.69	0.69	0.69	Pd (polycrystalline structure of coarse particles)	crystalline